

**AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES  
MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS**

- 1.-26. (Canceled)
27. (New) A sorption element for a sorption-supported air conditioning unit for heating and/or cooling and/or dehumidification of a room or an airflow, comprising:
- a tubular body defined by a cross section and having opposite first and second open ends;
  - a first air-permeable grid element delimiting the first open end and impermeable for a sorption agent; and
  - a second air-permeable grid element delimiting the second open end and impermeable for the sorption agent,
- wherein the sorption agent is arranged as a loose fill and filled up to a height which is smaller than a length of the tubular body, and
- wherein the sorption agent can be fluidized or swirled by an airflow.
28. (New) The sorption element of claim 27, wherein the airflow is introduced from below the tubular body.
29. (New) The sorption element of claim 27, wherein the cross section of the tubular body is substantially circular.
30. (New) The sorption element of claim 27, wherein the cross section of the tubular body is substantially polygonal.
31. (New) The sorption element of claim 27, wherein the cross section of the tubular body is rectangular.

32. (New) The sorption element of claim 27, wherein at least one of the first open end and second open end has a cross section which is smaller than the cross section of the tubular body.
33. (New) The sorption element of claim 27, wherein the tubular body has a maintenance opening for allowing introduction or exchange of the sorption agent.
34. (New) The sorption element of claim 27, wherein the sorption agent is a material selected from the group consisting of silica gel, hygroscopic salt, molecular sieve, hygroscopic metal oxides, and any combination thereof.
35. (New) The sorption element of claim 34, wherein the hygroscopic salt is LiCl or LiBr.
36. (New) The sorption element of claim 34, wherein the hygroscopic metal oxides includes  $\text{Al}_2\text{O}_3$ .
37. (New) The sorption element of claim 27, wherein the tubular body is arranged in a substantially vertical disposition.
38. (New) A sorption system for a sorption-supported air conditioning unit for dehumidifying and/or heating and/or cooling a room or an airflow, comprising at least two sorption elements disposed in substantially parallel relationship, each said sorption element including a tubular body defined by a cross section and having opposite first and second open ends, a first air-permeable grid element delimiting the first open end and impermeable for a sorption agent, and a second air-permeable grid element delimiting the second open end and impermeable for a sorption agent, wherein the sorption agent is arranged as a loose fill and filled up to a height which is smaller than a length

of the tubular body, and wherein the sorption agent can be fluidized/swirled by an airflow.

39. (New) The sorption system of claim 38, constructed for rotation about an axis in substantially parallel relationship to a longitudinal axis of the sorption system and/or for movement normal to a direction of the longitudinal axis .
40. (New) A method for a sorption-supported air conditioning unit for dehumidifying and/or heating and/or cooling a room or an airflow, said method comprising the step of guiding the airflow to be conditioned in a conditioning cycle through a sorption element to thereby dehumidify the airflow to be conditioned.
41. (New) The method of claim 40, further comprising the steps of guiding a regeneration airflow in a regeneration cycle through the sorption element, when a sorption agent reaches a predetermined degree of saturation, and subsequently restarting the conditioning cycle.
42. (New) The method of claim 41, wherein the regeneration airflow is heated air.
43. (New) The method of claim 41, wherein the step of guiding the airflow to be conditioned and the step of guiding a regeneration airflow involve the use of at least two sorption elements and are executed in a time-staggered manner.